

REMARKS/ARGUMENTS

Favorable reconsideration of this application in view of the present amendment and in light of the following remarks is respectfully requested.

Claims 1 and 3-15 are pending. Claim 7 is withdrawn. In the present amendment, Claims 1 and 5 are currently amended; Claim 2 is canceled without prejudice or disclaimer; and new Claims 11-15 are added. Support for the present amendment can be found in the original specification, for example, at page 12, line 26 to page 13, line 7, at page 31, lines 15-19, and in original Claims 2, 4, and 10. Thus, it is respectfully submitted that no new matter is added.

In the outstanding Office Action, Claims 1-3 and 8 were rejected under 35 U.S.C. § 103(a) as unpatentable over Akahori (U.S. Patent No. 6,443,165) in view of Ohmi (U.S. Patent Publication No. 2003/0178144) and Fong (U.S. Patent No. 5,882,414) or Akahori in view of Ohmi, Fong, and Yamazaki (U.S. Patent No. 6,228,751); and Claims 4-6, 9, and 10 were rejected under 35 U.S.C. § 103(a) as unpatentable over Akahori in view of Ohmi, Fong, and Blalock (U.S. Patent No. 5,417,826).

In response to the rejections of the claims under 35 U.S.C. §103(a), and in view of the present Amendment, Applicants respectfully request reconsideration of these rejections and traverse these rejections, as discussed below.

Amended Claim 1 recites, in part, the step (e) of forming the precoating film being performed after the processed substrate is unloaded in step (c) and the inner surfaces of the processing chamber is cleaned in step (d). Therefore, in an example embodiment of the invention in a case where a number of substrates are sequentially subjected to the fluorine-containing carbon film forming process, the thickness of the precoat film formed on the inner surface of the processing chamber is uniform regardless of the number of substrates to be processed, thereby obtaining a thickness uniformity for the film between the plurality of

substrates which are sequentially subjected to the fluorine-containing carbon film forming process,¹ as argued in Applicants' Response to the Office Actions of June 9, 2009 and June 22, 2009.

In response to the aforementioned argument, the Office Action on page 8 asserts that *"the features upon which applicant relies (i.e., uniformly forming the thickness of the precoat, on pg. 9 of remarks) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 993)."*

However, it is noted that in the previous response Applicants intended to argue that the technical feature of performing the step of forming the precoating film at each time the substrate is processed (which is recited in claim 1) is not disclosed by the cited references, as well as the technical effect thereof (i.e., the uniformly formed oxidization film).

Unfortunately, the Office Action does not appear to consider the aforementioned claimed feature, but merely considers its technical effect. Therefore, favorable reconsideration of the aforementioned claimed feature is respectfully requested.

Furthermore, Claim 1 is amended to include the features of Claim 2 and recites, in part, that *"the steps (d) and (e) are performed under the condition that a dummy substrate is mounted on the mounting table in the processing chamber."* It is noted that the claimed dummy substrate is mounted on the mounting table during the step (e) of forming a precoat film of fluorine-containing carbon. It is respectfully submitted that the cited references do not disclose or suggest each of the features recited in amended Claim 1.

Specifically, with respect to Akahori, the Office Action with respect to Claim 2 asserts that "Akahori in view of Ohmi and Fong (and Yamazaki) teaches steps (d) and (e) are performed under the conditions that a dummy substrate is mounted on the mounting table in

¹ See the original specification, at page 12, line 23 to page 13, line 7.

the processing chamber [Akahori, col 17, In 63-65].” Applicants respectfully disagree with the assertion of the Office Action, as cited portions of Akahori fail to teach the step of forming the precoat film while mounting the dummy substrate, as recited in amended Claim 1. Instead, col. 17, lines 63-65 of Akahori merely describe the cleaning being carried out after a cleaning wafer serving as a protective plate us transferred onto the transfer table 4. Akahori does not disclose forming a precoat film while mounting the dummy substrate in the portions cited in the Office Action with respect to Claim 2. Further, it is respectfully submitted that Ohmi, Fong, and Yamazaki do not cure the above-noted deficiencies of Akahori with respect to Claim 1. Thus, it is respectfully requested that the rejection of Claim 1, and all claims dependent thereon, be withdrawn.

Independent Claim 5 recites, in part, “(e) after the step (d), by supplying a gaseous mixture of an oxygen-containing gas and a rare gas into the processing chamber and radiating the microwave from the planar antenna member to activate the gaseous mixture, oxidizing the surface of the gas supply member with oxygen radicals generated from the gaseous mixture, wherein an oxide film having a high adhesivity is formed on the surface of the gas supply member by said oxidizing.”

With respect to Blalock, the Office Action asserts that “*Blalock teaches it would be desirable to remove carbon fluoride deposit from the reactor parts [col 1, In 50-671, wherein ozone is provide as the oxygen containing cleaning gas to remove the carbon-based residue [col 2, In 37-40] such that a two step cleaning process (with an oxidizing gas) may be provided to concentrate cleaning particular areas of the reactor [col 4, In 3-15], wherein one of ordinary skill in the art would recognize that a change in gas flow into an evacuated reactor would change the pressure within the reactor. Although the Blalock does not explicitly teach radiating the cleaning gas to oxidize (clean) specifically the gas supply member, it would have been obvious to one of ordinary skill in the art to remove as much*

residue material from every part of the reactor (such as the gas supply member) so as to reduce contamination with efficiency. Furthermore, the prior art teaches a plasma gas such as Argon (rare gas) may be supplied with the cleaning gas during clean treatment [Akahori, col 14, In 25-26]."

However, it is respectfully submitted that Blalock merely teaches the removal of carbon-based polymer residues. This teaching of Blalock may correspond to the step (d) of cleaning the inner surfaces of the processing chamber in claim 1, rather than the step (e) of oxidizing same (please note that the step (e) of said oxidizing in claim 5 is performed after the step (d) of said cleaning, accordingly there is no residue in the processing chamber when the oxidation gas is supplied in the processing chamber). Further, it is respectfully submitted that such teachings of Blalock cannot be a proper motivation for obtaining the above-noted claimed technical feature of Claim 5, since removing the residue and forming an oxidation film is a wholly different technical feature than the removal of carbon-based polymer residues taught by Blalock. Further, it is respectfully submitted that the remaining cited references do not cure the above-noted deficiencies of Blalock. Accordingly, it is respectfully requested that the rejection of Claim 5, and Claim 4 which also recites the step of oxidizing the inner surface of the processing chamber, and all claims dependent on Claim 5, be withdrawn.

With respect to the rejection of Claim 6, Claim 6 depends on Claim 5 and thus is patentable for at least the reasons discussed above with respect to Claim 5. Further, Claim 6 recites, in part, that the dummy substrate is mounted while the step (e) of said oxidizing the inner surfaces of the processing chamber is performed. It is respectfully submitted that Akahori and the remaining cited art references fail to teach the features of Claim 6. Accordingly, it is respectfully requested that the rejection of Claim 6 be withdrawn.

New Claims 11-15 are added by the present amendment. Support for new Claims 11-15 can be found in the original specification, for example at page 12, line 26 to page 13, line 7, and in original Claims 4 and 10. Thus, it is respectfully submitted that no new matter is added. New Claims 11-15 depend on Claims 1 and 5, and are believed to be patentable for at least the reasons discussed above with respect to Claims 1 and 5. Accordingly, it is respectfully requested that new Claims 11-15 be allowed.

Consequently, in view of the present amendment and in light of the above discussions, the outstanding grounds for rejection are believed to have been overcome. The application as amended herewith is believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicant's undersigned representative at the below listed telephone number.

Respectfully submitted,

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